

Attachment No. 3

Petroleum Storage Tanks

Exhibit D

MERIT ENERGY COMPANY

Facility Name: Karon Gas Plant

TANK EMISSIONS*

2003 Emissions Inventory

| <u>Tank</u> | <u>Size</u> | <u>Content</u> | <u>Standing Losses</u> (lbs/yr) | <u>Working Losses</u> (lbs/yr) | <u>Total Losses (tons/year)</u> | |
|--------------|-------------|----------------|------------------------------------|-----------------------------------|---------------------------------|----------|
| TK-1 | 1000 bbl | crude oil | 1474.4 | 2747.07 | 4221.47 | 2.110735 |
| TK-2 | 1000 bbl | crude oil | 1474.4 | 2747.07 | 4221.47 | 2.110735 |
| Total | | | | | 4.22147 | |

* Calculated using EPA - CHIEFS Tanks 4.0 Program

TANKS 4.0

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification
 User Identification: Karon No. 2 - 1000 bbl tank
 City: Bishop
 State: Texas
 Company: Merit Energy Company
 Type of Tank: Vertical Fixed Roof Tank
 Description: 2004 EIS

Tank Dimensions
 Shell Height (ft): 16.20
 Diameter (ft): 21.00
 Liquid Height (ft): 7.00
 Avg. Liquid Height (ft): 6.00
 Volume (gallons): 18,136.76
 Turnovers: 21.98
 Net Throughput (gal/yr): 398,580.00
 Is Tank Heated (y/n): N

Paint Characteristics
 Shell Color/Shade: Gray/Light
 Shell Condition: Good
 Roof Color/Shade: Gray/Light
 Roof Condition: Good

Roof Characteristics
 Type: Cone
 Height (ft): 0.66
 Slope (ft/ft) (Cone Roof): 0.06

Breather Vent Settings
 Vacuum Settings (psig): -0.03
 Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Corpus Christi, Texas (Avg Atmospheric Pressure = 14.7 psia)

TANKS 4.0 Emissions Report - Detail Format Liquid Contents of Storage Tank

| Mixture/Component | Month | Daily Liquid Surf. Temperatures (deg F) | | Liquid Bulk Temp. (deg F) | Vapor Pressures (psia) | | Vapor Mol. Weight | Liquid Mass Fract. | Vapor Mass Fract. | Mol. Weight | Basis for Vapor Pressure Calculations |
|-------------------|-------|--|-------|------------------------------------|------------------------|--------|-------------------------|--------------------------|-------------------------|----------------|--|
| | | Avg. | Min. | | Avg. | Min. | | | | | |
| Crude oil (RVP 5) | Jan | 69.36 | 62.47 | 73.79 | 3.4476 | 3.0202 | 50.0000 | | | 207.00 | Option 4: RVP=5 |
| Crude oil (RVP 5) | Feb | 71.89 | 63.83 | 73.79 | 3.6159 | 3.1009 | 50.0000 | | | 207.00 | Option 4: RVP=5 |
| Crude oil (RVP 5) | Mar | 76.13 | 67.15 | 73.79 | 3.9129 | 3.3054 | 50.0000 | | | 207.00 | Option 4: RVP=5 |
| Crude oil (RVP 5) | Apr | 80.02 | 70.64 | 73.79 | 4.2019 | 3.5321 | 50.0000 | | | 207.00 | Option 4: RVP=5 |
| Crude oil (RVP 5) | May | 82.97 | 73.41 | 73.79 | 4.4330 | 3.7202 | 50.0000 | | | 207.00 | Option 4: RVP=5 |
| Crude oil (RVP 5) | Jun | 85.59 | 75.23 | 73.79 | 4.6457 | 3.8485 | 50.0000 | | | 207.00 | Option 4: RVP=5 |
| Crude oil (RVP 5) | Jul | 86.78 | 75.94 | 73.79 | 4.7456 | 3.8990 | 50.0000 | | | 207.00 | Option 4: RVP=5 |
| Crude oil (RVP 5) | Aug | 86.27 | 75.96 | 73.79 | 4.7027 | 3.9004 | 50.0000 | | | 207.00 | Option 4: RVP=5 |
| Crude oil (RVP 5) | Sep | 83.78 | 74.61 | 73.79 | 4.4981 | 3.8039 | 50.0000 | | | 207.00 | Option 4: RVP=5 |
| Crude oil (RVP 5) | Oct | 79.67 | 70.90 | 73.79 | 4.1755 | 3.5492 | 50.0000 | | | 207.00 | Option 4: RVP=5 |
| Crude oil (RVP 5) | Nov | 74.68 | 67.10 | 73.79 | 3.8091 | 3.3021 | 50.0000 | | | 207.00 | Option 4: RVP=5 |
| Crude oil (RVP 5) | Dec | 70.59 | 63.82 | 73.79 | 3.5285 | 3.1004 | 50.0000 | | | 207.00 | Option 4: RVP=5 |

TANKS 4.0
Emissions Report - Detail Format
Detail Calculations (AP-42)

| Month: | January | February | March | April | May | June | July | August | September | October | November | December |
|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Standing Losses (lb): | 148.4757 | 164.6944 | 216.2736 | 237.2926 | 263.8258 | 290.5409 | 321.8442 | 302.8602 | 248.3599 | 227.5697 | 173.6126 | 148.7225 |
| Vapor Space Volume (cu ft): | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 |
| Vapor Density (lb/cu ft): | 0.0304 | 0.0317 | 0.0340 | 0.0363 | 0.0381 | 0.0397 | 0.0405 | 0.0401 | 0.0386 | 0.0361 | 0.0332 | 0.0310 |
| Vapor Space Expansion Factor: | 0.1269 | 0.1541 | 0.1821 | 0.2006 | 0.2136 | 0.2210 | 0.2257 | 0.2246 | 0.2072 | 0.1864 | 0.1498 | 0.1264 |
| Vented Vapor Saturation Factor: | 0.3444 | 0.3337 | 0.3164 | 0.3012 | 0.2900 | 0.2805 | 0.2762 | 0.2780 | 0.2870 | 0.3025 | 0.3222 | 0.3391 |
| Tank Vapor Space Volume | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 | 3,609.0773 |
| Tank Diameter (ft): | 21.0000 | 21.0000 | 21.0000 | 21.0000 | 21.0000 | 21.0000 | 21.0000 | 21.0000 | 21.0000 | 21.0000 | 21.0000 | 21.0000 |
| Vapor Space Outage (ft): | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 |
| Tank Shell Height (ft): | 16.2000 | 16.2000 | 16.2000 | 16.2000 | 16.2000 | 16.2000 | 16.2000 | 16.2000 | 16.2000 | 16.2000 | 16.2000 | 16.2000 |
| Average Liquid Height (ft): | 6.0000 | 6.0000 | 6.0000 | 6.0000 | 6.0000 | 6.0000 | 6.0000 | 6.0000 | 6.0000 | 6.0000 | 6.0000 | 6.0000 |
| Roof Outage (ft): | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 |
| Roof Outage (Cone Roof) | | | | | | | | | | | | |
| Roof Outage (ft): | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 | 0.2200 |
| Roof Height (ft): | 0.6600 | 0.6600 | 0.6600 | 0.6600 | 0.6600 | 0.6600 | 0.6600 | 0.6600 | 0.6600 | 0.6600 | 0.6600 | 0.6600 |
| Roof Slope (ft/h): | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 |
| Shell Radius (ft): | 10.5000 | 10.5000 | 10.5000 | 10.5000 | 10.5000 | 10.5000 | 10.5000 | 10.5000 | 10.5000 | 10.5000 | 10.5000 | 10.5000 |
| Vapor Density | 0.0304 | 0.0317 | 0.0340 | 0.0363 | 0.0381 | 0.0397 | 0.0405 | 0.0401 | 0.0386 | 0.0361 | 0.0332 | 0.0310 |
| Vapor Molecular Weight (lb/lb-mole): | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 |
| Vapor Pressure at Daily Average Liquid Surface Temperature (psia): | 3.4476 | 3.6159 | 3.9129 | 4.2018 | 4.4330 | 4.6457 | 4.7456 | 4.7027 | 4.4981 | 4.1755 | 3.8091 | 3.5285 |
| Daily Avg. Liquid Surface Temp. (deg. R): | 529.0336 | 531.5606 | 535.8005 | 539.6855 | 542.6408 | 545.2352 | 546.4502 | 545.9396 | 543.4516 | 539.3395 | 534.3463 | 530.2602 |
| Daily Average Ambient Temp. (deg. F): | 55.1500 | 58.5000 | 65.5000 | 72.4500 | 77.8500 | 81.9000 | 84.0500 | 84.2000 | 81.0000 | 73.9000 | 65.7000 | 58.3500 |
| Ideal Gas Constant R (psia-cu ft / (lb-mol-deg R)): | 10.731 | 10.731 | 10.731 | 10.731 | 10.731 | 10.731 | 10.731 | 10.731 | 10.731 | 10.731 | 10.731 | 10.731 |
| Liquid Bulk Temperature (deg. R): | 533.4558 | 533.4558 | 533.4558 | 533.4558 | 533.4558 | 533.4558 | 533.4558 | 533.4558 | 533.4558 | 533.4558 | 533.4558 | 533.4558 |
| Tank Paint Solar Absorptance (Shell): | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 |
| Tank Paint Solar Absorptance (Roof): | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 | 0.5400 |
| Daily Total Solar Insulation Factor (Btu/sq ft day): | 885.5006 | 1,132.3366 | 1,404.2370 | 1,598.0890 | 1,733.8806 | 1,929.0016 | 1,987.3793 | 1,852.2223 | 1,599.0408 | 1,367.4337 | 1,043.1838 | 842.9864 |
| Vapor Space Expansion Factor | 0.1269 | 0.1541 | 0.1821 | 0.2006 | 0.2136 | 0.2210 | 0.2257 | 0.2246 | 0.2072 | 0.1864 | 0.1498 | 0.1264 |
| Daily Vapor Temperature Range (deg. R): | 21.5728 | 32.2409 | 35.9201 | 37.4831 | 38.2403 | 41.4065 | 43.3692 | 41.2536 | 36.7055 | 35.0755 | 30.3169 | 27.0740 |
| Daily Vapor Pressure Range (psia): | 0.9019 | 1.0961 | 1.3011 | 1.4372 | 1.5301 | 1.7202 | 1.8329 | 1.7305 | 1.4855 | 1.3378 | 1.0742 | 0.9021 |
| Breather Vent Press. Setting Range (psia): | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 | 0.0600 |
| Vapor Pressure at Daily Average Liquid Surface Temperature (psia): | 3.4476 | 3.6159 | 3.9129 | 4.2018 | 4.4330 | 4.6457 | 4.7456 | 4.7027 | 4.4981 | 4.1755 | 3.8091 | 3.5285 |
| Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia): | 3.0202 | 3.1009 | 3.3054 | 3.5321 | 3.7202 | 3.9485 | 3.8990 | 3.9004 | 3.8039 | 3.5492 | 3.3021 | 3.1004 |
| Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia): | 3.9221 | 4.1970 | 4.6065 | 4.9693 | 5.2503 | 5.5687 | 5.7319 | 5.6309 | 5.2894 | 4.8870 | 4.3763 | 4.0025 |
| Daily Avg. Liquid Surface Temp. (deg R): | 529.0336 | 531.5606 | 535.8005 | 539.6855 | 542.6408 | 545.2352 | 546.4502 | 545.9396 | 543.4516 | 539.3395 | 534.3463 | 530.2602 |
| Daily Min. Liquid Surface Temp. (deg R): | 522.1404 | 523.5004 | 526.8205 | 530.3147 | 533.0807 | 534.9036 | 535.6079 | 535.8262 | 534.2752 | 530.5706 | 526.7691 | 523.4818 |
| Daily Max. Liquid Surface Temp. (deg R): | 535.9268 | 539.6208 | 544.7806 | 549.0563 | 552.2008 | 555.6088 | 557.2925 | 556.2530 | 552.6279 | 548.1084 | 541.9275 | 537.0287 |
| Daily Ambient Temp. Range (deg. R): | 19.7000 | 21.0000 | 20.4000 | 18.5000 | 16.7000 | 17.0000 | 18.5000 | 18.4000 | 17.4000 | 20.0000 | 20.2000 | 19.9000 |
| Vented Vapor Saturation Factor | 0.3444 | 0.3337 | 0.3164 | 0.3012 | 0.2900 | 0.2805 | 0.2762 | 0.2780 | 0.2870 | 0.3025 | 0.3222 | 0.3391 |
| Vented Vapor Saturation Factor: | | | | | | | | | | | | |
| Vapor Pressure at Daily Average Liquid Surface Temperature (psia): | 3.4476 | 3.6159 | 3.9129 | 4.2018 | 4.4330 | 4.6457 | 4.7456 | 4.7027 | 4.4981 | 4.1755 | 3.8091 | 3.5285 |
| Vapor Space Outage (ft): | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 | 10.4200 |
| Working Losses (lb): | 102.2419 | 107.2328 | 116.0430 | 124.6139 | 131.4654 | 137.7733 | 140.7355 | 139.4638 | 133.3965 | 123.8308 | 112.9627 | 104.6408 |
| Vapor Molecular Weight (lb/lb-mole): | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 | 50.0000 |
| Vapor Pressure at Daily Average Liquid Surface Temperature (psia): | 3.4476 | 3.6159 | 3.9129 | 4.2018 | 4.4330 | 4.6457 | 4.7456 | 4.7027 | 4.4981 | 4.1755 | 3.8091 | 3.5285 |

TANKS 4.0
Emissions Report - Detail Format
Detail Calculations (AP-42)- (Continued)

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TANKS 4.0
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January , February , March , April , May , June , July , August , September , October , November , December

| Components | Losses(lbs) | | Total Emissions |
|-------------------|--------------|----------------|-----------------|
| | Working Loss | Breathing Loss | |
| Crude oil (RVP 5) | 1,474.40 | 2,747.07 | 4,221.47 |